

1 2 3

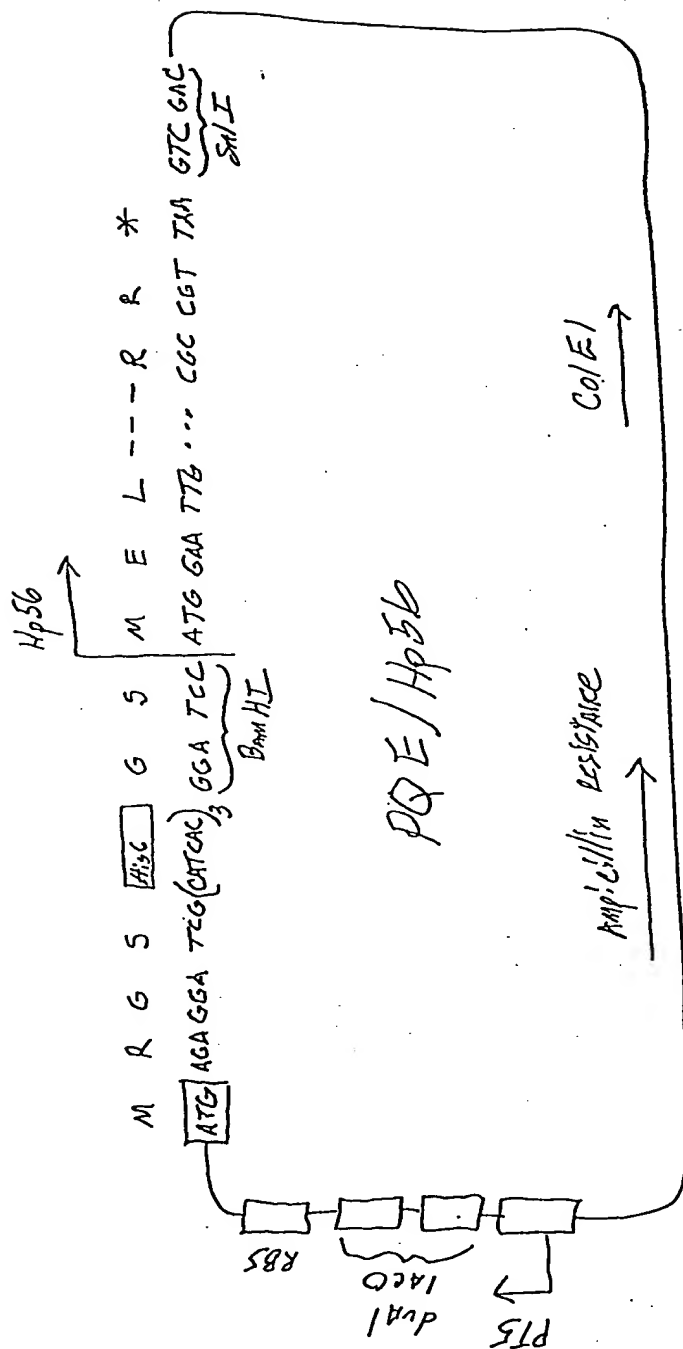


FIG. 2

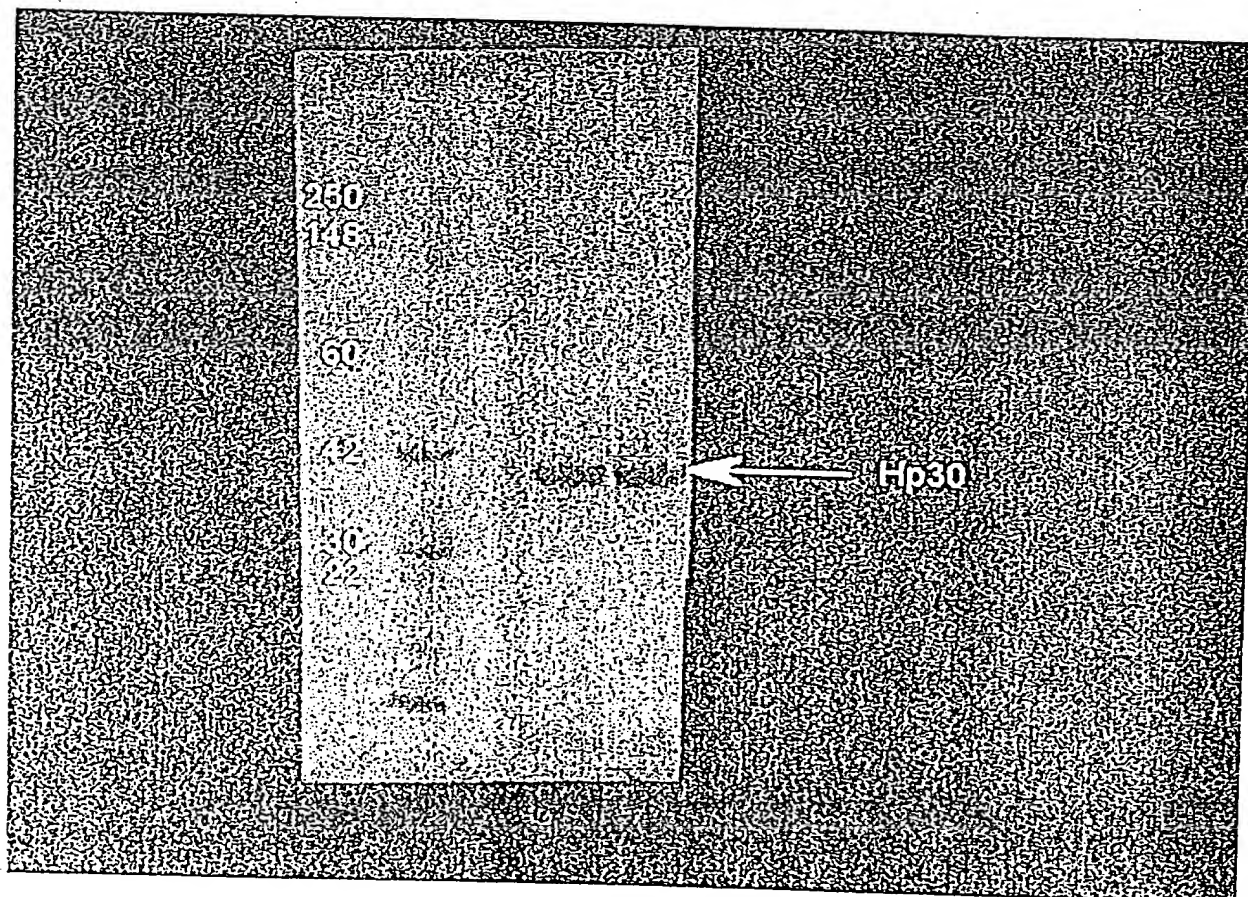


FIG. 3

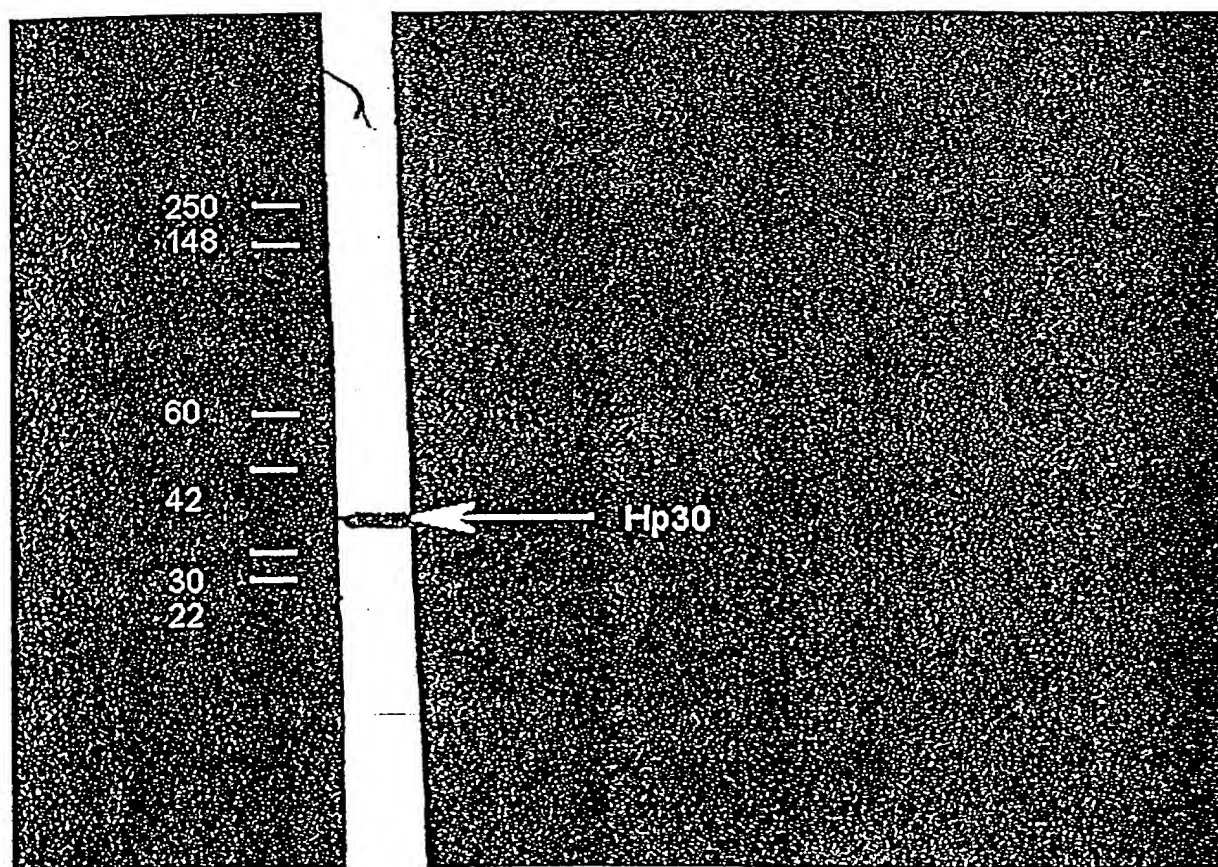


FIG. 4

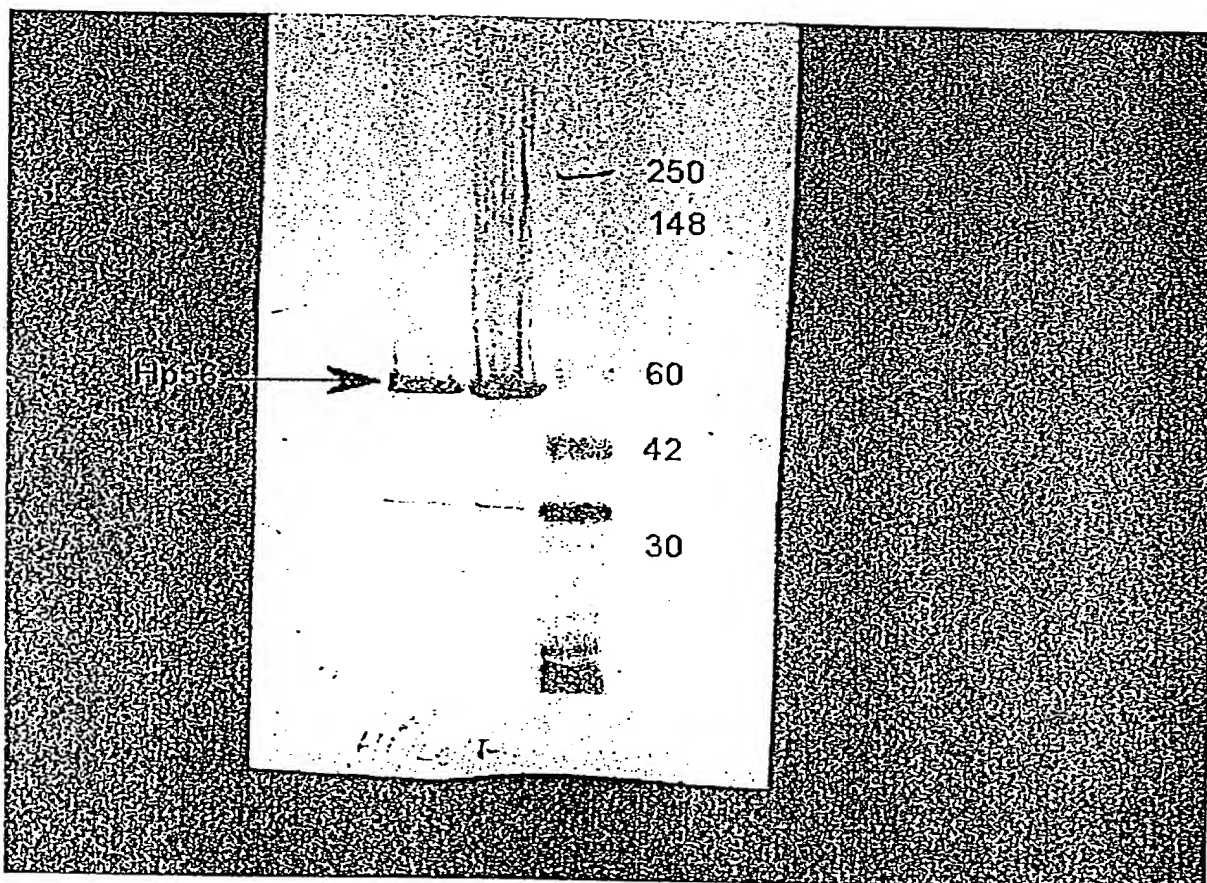


FIG. 5

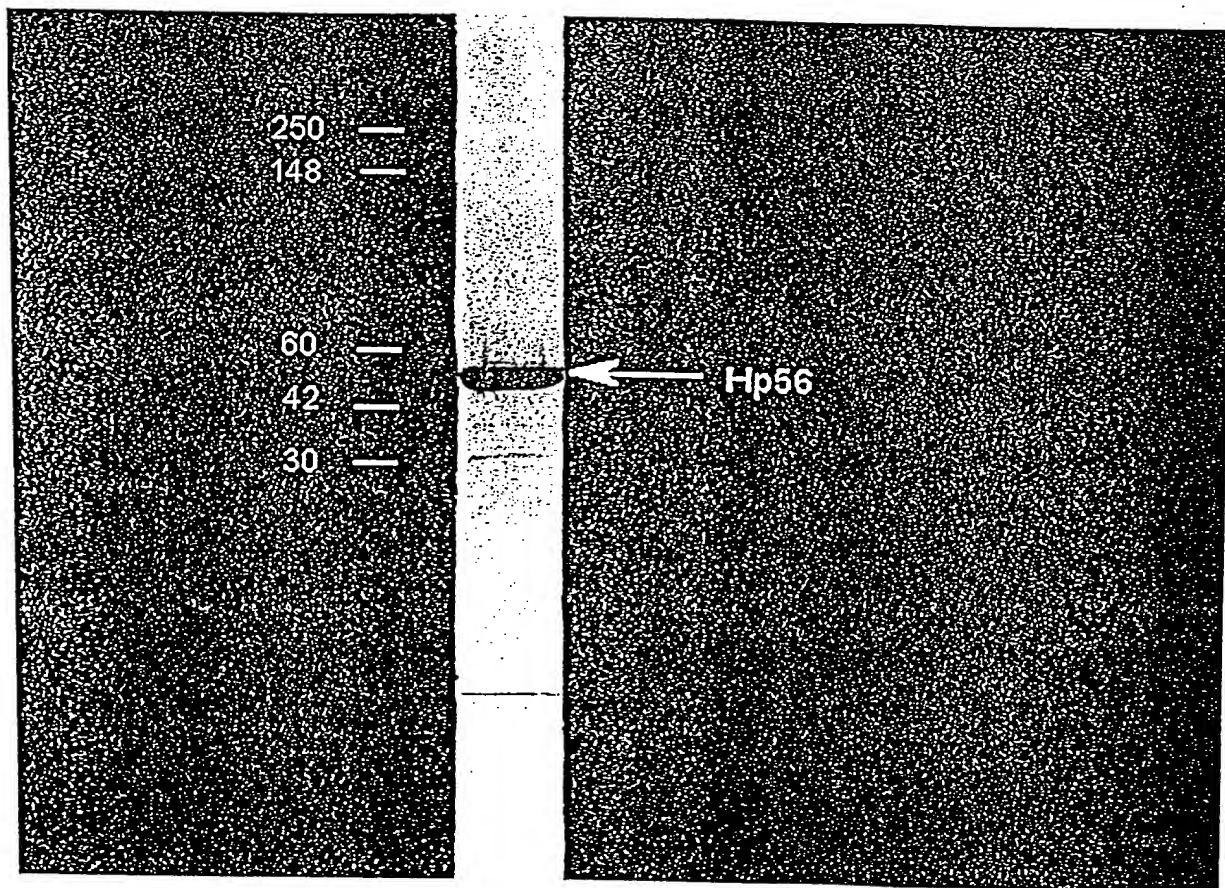


FIG. 6

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(SHEET 7 OF 11)

atg gaa ttg aat caa cca cca ctc cct aca gaa att gat ggt gac gct Met Glu Leu Asn Gln Pro Pro Leu Pro Thr Glu Ile Asp Gly Asp Ala 1 5 10 15	48
tat cat aag ccg agt ttt aat gat ttg ggc tta aaa gaa tcg gtt tta Tyr His Lys Pro Ser Phe Asn Asp Leu Gly Leu Lys Glu Ser Val Leu 20 25 30	96
aaa tcc gtt tat gaa gcc ggc ttc act tcc cca agc ccc att caa gaa Lys Ser Val Tyr Glu Ala Gly Phe Thr Ser Pro Ser Pro Ile Gln Glu 35 40 45	144
aag gcc att ccg gct gtt ttg caa ggc cga gat gtc atc gca caa gcc Lys Ala Ile Pro Ala Val Leu Gln Gly Arg Asp Val Ile Ala Gln Ala 50 55 60	192
caa aca ggc aca gga aaa acc gcc gct ttc gct ctg ccc att atc aac Gln Thr Gly Thr Gly Lys Thr Ala Ala Phe Ala Leu Pro Ile Ile Asn 65 70 75 80	240
aac ctt aaa aac aac cac acc ata gaa gcc cta gtg atc acg ccc acc Asn Leu Lys Asn Asn His Thr Ile Glu Ala Leu Val Ile Thr Pro Thr 85 90 95	288
aga gaa tta gcc atg caa att agc gat gag att ttc aaa ttg ggc aaa Arg Glu Leu Ala Met Gln Ile Ser Asp Glu Ile Phe Lys Leu Gly Lys 100 105 110	336
cac acc agg act aaa acc gtg tgc gtg tat gga ggc cag agc gtt aaa His Thr Arg Thr Lys Thr Val Cys Val Tyr Gly Gly Gln Ser Val Lys 115 120 125	384
aag caa tgc gaa ttc att aag aaa aat ccc caa gtg atg atc gct aca Lys Gln Cys Glu Phe Ile Lys Lys Asn Pro Gln Val Met Ile Ala Thr 130 135 140	432
cca gga agg ctg ctc gat cac tta aaa aac gaa cgc atc cat aaa ttt Pro Gly Arg Leu Leu Asp His Leu Lys Asn Glu Arg Ile His Lys Phe 145 150 155 160	480
gtg cct aaa gtg gtc gtt tta gat gaa agc gat gaa atg ctg gat atg Val Pro Lys Val Val Val Leu Asp Glu Ser Asp Glu Met Leu Asp Met 165 170 175	528
ggg ttt tta gac gat att gaa gag att ttt gac tac ctc cct agc gaa Gly Phe Leu Asp Asp Ile Glu Glu Ile Phe Asp Tyr Leu Pro Ser Glu 180 185 190	576
gcg cag att ttg ctt ttt tca gcc acg atg cca gag ccg att aaa aga Ala Gln Ile Leu Leu Phe Ser Ala Thr Met Pro Glu Pro Ile Lys Arg 195 200 205	624
cta gcg gat aag att tta gaa aac cct att aaa atc cat atc gct cct Leu Ala Asp Lys Ile Leu Glu Asn Pro Ile Lys Ile His Ile Ala Pro 210 215 220	672
tct aat atc act aac acc gac atc acc caa cgc ttt tat gtg atc aat Ser Asn Ile Thr Asn Thr Asp Ile Thr Gln Arg Phe Tyr Val Ile Asn 225 230 235 240	720
gag cat gag agg gcc gaa gcg atc atg cgc ctt tta gac acc caa gca Glu His Glu Arg Ala Glu Ala Ile Met Arg Leu Leu Asp Thr Gln Ala 245 250 255	768
ccc aaa aag agc att gtt ttc acg cgc act aaa aaa gaa gcc gat gaa Pro Lys Lys Ser Ile Val Phe Thr Arg Thr Lys Lys Glu Ala Asp Glu 260 265 270	816

FIG. 7a

ttg	cac	caa	ttc	ctt	gct	tct	aaa	aat	tac	aaa	agc	acc	gcc	ttg	cat	864
Leu	His	Gln	Phe	Leu	Ala	Ser	Lys	Asn	Tyr	Lys	Ser	Thr	Ala	Leu	His	
		275					280					285				
ggg	gat	atg	gat	caa	agg	gat	cgg	cgc	tct	tct	atc	atg	gcg	ttt	aaa	912
Gly	Asp	Met	Asp	Gln	Arg	Asp	Arg	Arg	Ser	Ser	Ile	Met	Ala	Phe	Lys	
	290					295					300					
aaa	aat	gac	gct	gat	gtg	ttg	gtg	gct	aca	gat	gtg	gcg	agt	cgt	ggg	960
Lys	Asn	Asp	Ala	Asp	Val	Leu	Val	Ala	Thr	Asp	Val	Ala	Ser	Arg	Gly	
					310					315					320	
cta	gat	att	agc	ggc	gta	agc	cat	gtg	ttt	aat	tac	cac	ttg	ccc	cta	1008
Leu	Asp	Ile	Ser	Gly	Val	Ser	His	Val	Phe	Asn	Tyr	His	Leu	Pro	Leu	
				325					330					335		
aac	act	gag	agc	tat	atc	cat	cgc	atc	ggg	aga	acc	ggg	cga	gcg	ggc	1056
Asn	Thr	Glu	Ser	Tyr	Ile	His	Arg	Ile	Gly	Arg	Thr	Gly	Arg	Ala	Gly	
			340					345					350			
aaa	aaa	ggc	atg	gcg	atc	act	tta	gta	acc	cct	tta	gaa	tac	aaa	gag	1104
Lys	Lys	Gly	Met	Ala	Ile	Thr	Leu	Val	Thr	Pro	Leu	Glu	Tyr	Lys	Glu	
		355					360					365				
ctt	tta	cgc	atg	caa	aaa	gaa	att	gat	tca	gag	att	gaa	ctt	ttt	gaa	1152
Leu	Leu	Arg	Met	Gln	Lys	Glu	Ile	Asp	Ser	Glu	Ile	Glu	Leu	Phe	Glu	
		370				375					380					
atc	ccc	acc	att	aac	gaa	aat	cag	atc	atc	aaa	acc	ttg	cat	gac	gct	1200
Ile	Pro	Thr	Ile	Asn	Glu	Asn	Gln	Ile	Ile	Lys	Thr	Leu	His	Asp	Ala	
	385				390					395					400	
aaa	gtg	tct	gaa	ggg	atc	atc	agc	ctt	tat	gaa	cag	ctt	acc	gaa	att	1248
Lys	Val	Ser	Glu	Gly	Ile	Ile	Ser	Leu	Tyr	Glu	Gln	Leu	Thr	Glu	Ile	
				405					410					415		
ttt	gag	cgc	tct	caa	ttg	gtt	tta	aaa	ctt	ttg	agt	ttg	cag	ttt	gaa	1296
Phe	Glu	Pro	Ser	Gln	Leu	Val	Leu	Lys	Leu	Leu	Ser	Leu	Gln	Phe	Glu	
			420					425					430			
acc	agc	aaa	att	ggc	tta	aac	cag	caa	gaa	att	gac	gcg	att	caa	aac	1344
Thr	Ser	Lys	Ile	Gly	Leu	Asn	Gln	Gln	Glu	Ile	Asp	Ala	Ile	Gln	Asn	
		435					440					445				
cct	aaa	gaa	aaa	acg	cca	aaa	ccc	tct	aac	aaa	aaa	acg	ccc	caa	cat	1392
Pro	Lys	Glu	Lys	Thr	Pro	Lys	Pro	Ser	Asn	Lys	Lys	Thr	Pro	Gln	His	
		450				455					460					
gag	cga	gcg	cgt	tct	ttc	aaa	aag	ggt	cag	cac	aga	gac	aga	cac	cct	1440
Glu	Arg	Ala	Arg	Ser	Phe	Lys	Lys	Gly	Gln	His	Arg	Asp	Arg	His	Pro	
	465				470				475						480	
aaa	aca	aac	cat	tat	tct	aaa	aaa	ccc	aaa	cgc	cgt					1476
Lys	Thr	Asn	His	Tyr	Ser	Lys	Lys	Pro	Lys	Arg	Arg					
				485					490							

FIG. 7b

atg	gca	tac	aaa	tat	gat	aga	gac	ttg	gaa	ttt	tta	aag	caa	ttg	gaa	48
Met	Ala	Tyr	Lys	Tyr	Asp	Arg	Asp	Leu	Glu	Phe	Leu	Lys	Gln	Leu	Glu	
1				5				10						15		
tct	agt	gat	tta	ttg	gat	ttg	ttt	gag	gtg	ctt	gtt	ttt	ggg	aaa	gac	96
Ser	Ser	Asp	Leu	Leu	Asp	Leu	Phe	Glu	Val	Leu	Val	Phe	Gly	Lys	Asp	
			20					25					30			
ggc	gaa	aaa	aga	cac	aat	gaa	aaa	ctg	acc	agc	tcc	ata	gaa	tac	aaa	144
Gly	Glu	Lys	Arg	His	Asn	Glu	Lys	Leu	Thr	Ser	Ser	Ile	Glu	Tyr	Lys	
		35					40					45				
agg	cat	ggc	gat	gat	tac	gct	aaa	tac	gca	gaa	aga	atc	gct	gaa	gag	192
Arg	His	Gly	Asp	Asp	Tyr	Ala	Lys	Tyr	Ala	Glu	Arg	Ile	Ala	Glu	Glu	
	50					55					60					
ttg	caa	tac	tat	ggg	agc	aat	agt	ttt	gcg	agt	ttc	att	aaa	ggc	gaa	240
Leu	Gln	Tyr	Tyr	Gly	Ser	Asn	Ser	Phe	Ala	Ser	Phe	Ile	Lys	Gly	Glu	
65					70					75					80	
gga	gtc	tta	tac	aaa	gag	att	tta	tgc	gat	gtg	tgc	gat	aaa	tta	aag	288
Gly	Val	Leu	Tyr	Lys	Glu	Ile	Leu	Cys	Asp	Val	Cys	Asp	Lys	Leu	Lys	
				85				90						95		
gtc	aat	tac	aac	aag	aaa	act	gaa	acg	act	tta	att	gaa	caa	aac	atg	336
Val	Asn	Tyr	Asn	Lys	Lys	Thr	Glu	Thr	Thr	Leu	Ile	Glu	Gln	Asn	Met	
			100					105					110			
ctt	tct	aaa	atc	tta	gaa	aga	agt	ttg	gaa	gaa	atg	gat	gat	gaa	gaa	384
Leu	Ser	Lys	Ile	Leu	Glu	Arg	Ser	Leu	Glu	Glu	Met	Asp	Asp	Glu	Glu	
		115					120					125				
gtg	aaa	gaa	atg	tgc	gat	gaa	tta	tcc	ata	aaa	aac	acg	gac	aat	tta	432
Val	Lys	Glu	Met	Cys	Asp	Glu	Leu	Ser	Ile	Lys	Asn	Thr	Asp	Asn	Leu	
	130					135					140					
aac	aga	caa	gcc	tta	agc	gcg	gcg	act	tta	acg	ctg	ttt	aaa	atg	ggg	480
Asn	Arg	Gln	Ala	Leu	Ser	Ala	Ala	Thr	Leu	Thr	Leu	Phe	Lys	Met	Gly	
145					150					155					160	
ggg	ttt	aaa	tct	tat	caa	tta	gct	gtc	att	gtt	gcg	aat	gcg	gtc	gca	528
Gly	Phe	Lys	Ser	Tyr	Gln	Leu	Ala	Val	Ile	Val	Ala	Asn	Ala	Val	Ala	
				165				170						175		
aaa	acc	att	cta	ggg	cgt	ggg	tta	tcg	ctt	gcg	ggc	aat	cag	gtg	ctt	576
Lys	Thr	Ile	Leu	Gly	Arg	Gly	Leu	Ser	Leu	Ala	Gly	Asn	Gln	Val	Leu	
			180					185					190			
aca	aga	act	ctg	agc	ttt	tta	aca	ggg	cct	gtt	ggc	tgg	atc	att	aca	624
Thr	Arg	Thr	Leu	Ser	Phe	Leu	Thr	Gly	Pro	Val	Gly	Trp	Ile	Ile	Thr	
			195				200					205				
ggc	gta	tgg	aca	gcg	att	gat	att	gca	ggg	ccg	gct	tat	agg	gta	acc	672
Gly	Val	Trp	Thr	Ala	Ile	Asp	Ile	Ala	Gly	Pro	Ala	Tyr	Arg	Val	Thr	
	210					215					220					
ata	ccg	gca	tgc	att	gtg	gtt	gcc	act	tta	cgc	cta	aaa	aca	cag	caa	720
Ile	Pro	Ala	Cys	Ile	Val	Val	Ala	Thr	Leu	Arg	Leu	Lys	Thr	Gln	Gln	
225					230					235					240	
gcc	aat	gga	gat	aag	aag	tcg	ttg	caa	ata	gaa	tcc	att				759
Ala	Asn	Gly	Asp	Lys	Lys	Ser	Leu	Gln	Ile	Glu	Ser	Ile				
				245					250							

FIG. 8

Protection Against Gastric *H. pylori* Colonization in Mice Conferred by Subcutaneous Immunization with Recombinant Hp30

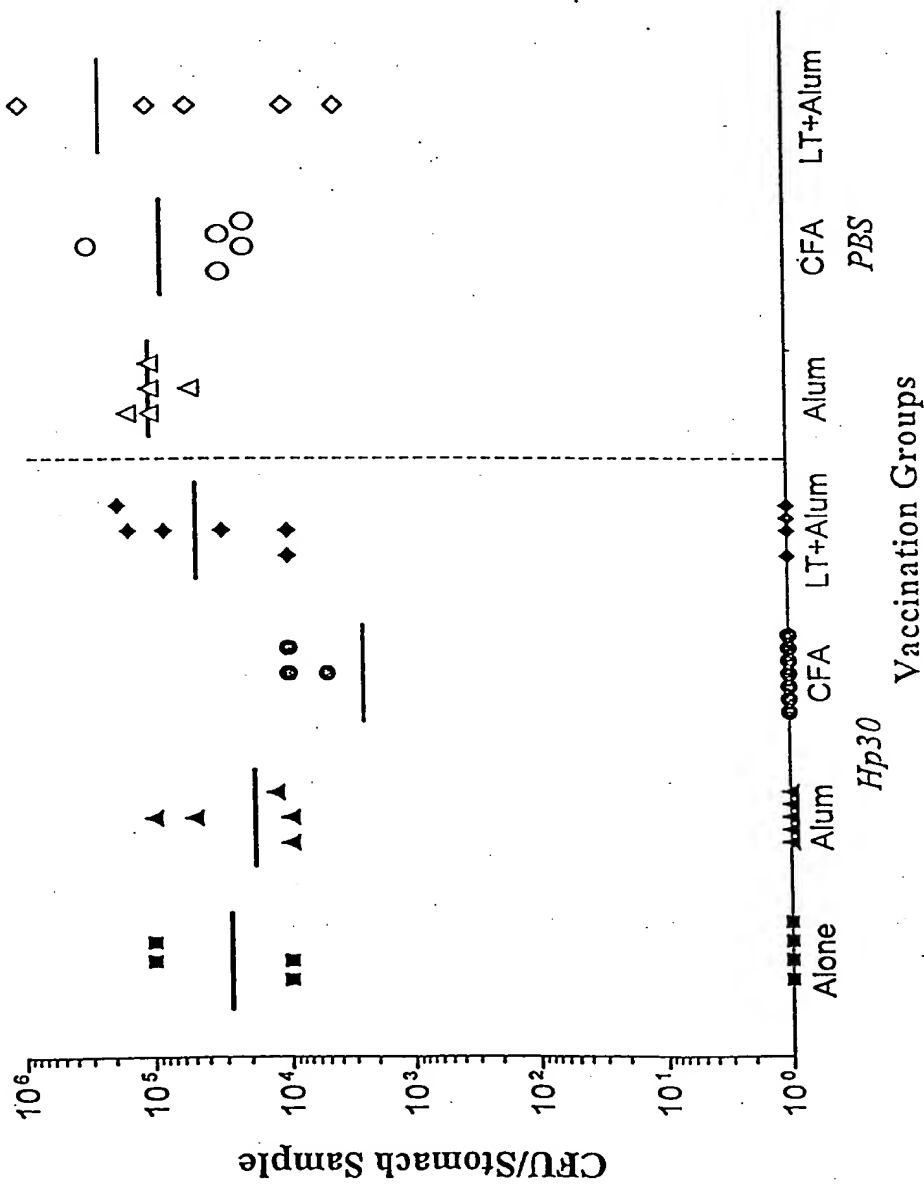


FIG. 9

Protection Against Gastric *H. pylori* Colonization in Mice Conferred
by Oral Immunization with *Helicobacter* Lysate or Subunits Vaccine

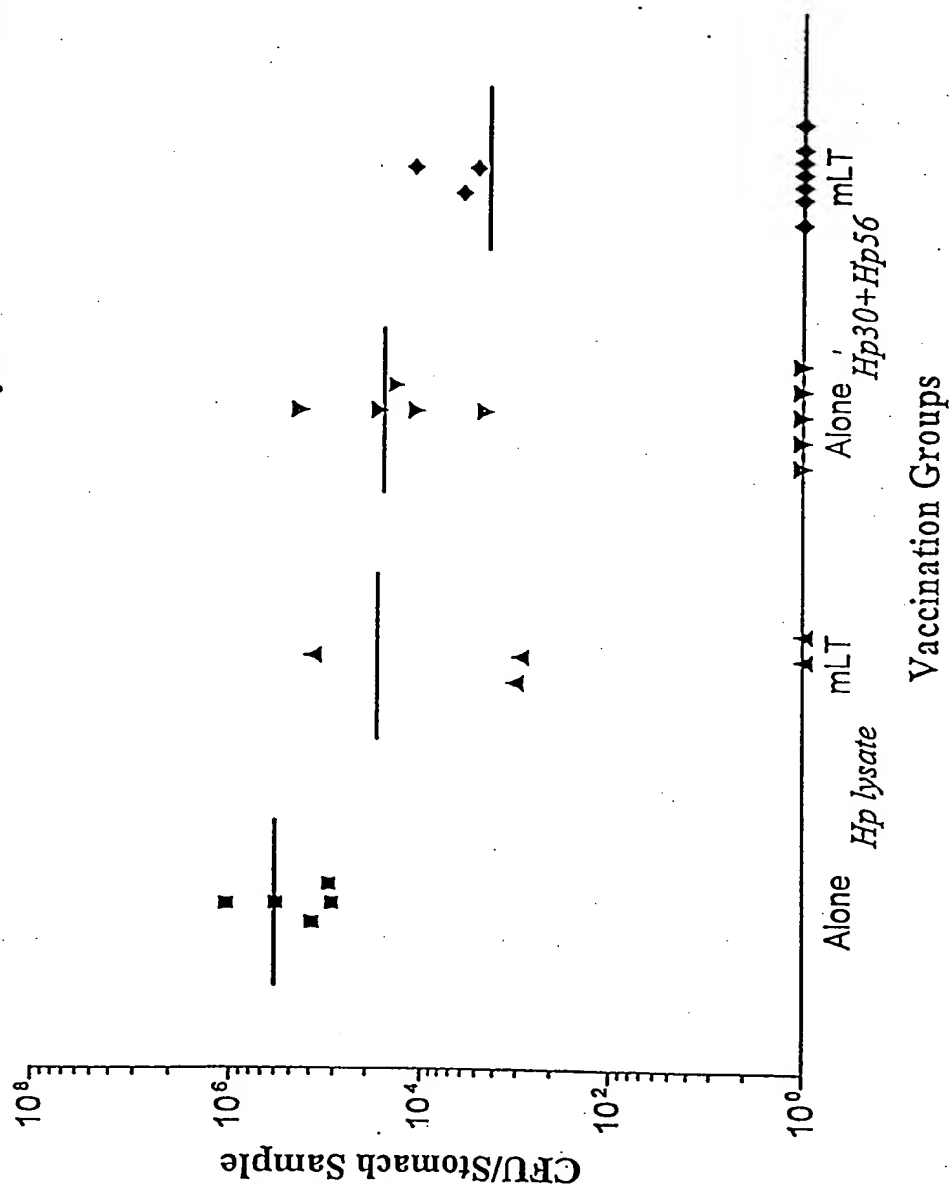


FIG. 10